

Energy Efficiency Regulations for Portable Electric Spas

Presented by
Nicholas Timothy

Efficiency Division
Appliances Office

12/11/2018





Energy Efficiency Regulations for Portable Electric Spas

Our webinar will begin at the top of the hour.

This slide deck will be posted on
our webpage after the presentation at
[www.energy.ca.gov/appliances/forms/index.
html#webdocs.](http://www.energy.ca.gov/appliances/forms/index.html#webdocs)



Participation Guidelines

To ensure a successful webinar for all:

- Please use the chat feature or raise hand feature to ask questions or make comments
- Please mute your phone
- Please do not place your phone on HOLD
- Please hold questions until the end of the Webinar

Contact us for further information at
appliances@energy.ca.gov



Goals of this Webinar

- Help manufacturers, retailers, contractors, and installers understand the updated appliance energy efficiency regulations for covered portable electric spas
- Highlight the effective date of the regulations
- Explain testing and certification requirements
- Point you to resources
- Answer your questions



Topic Areas

- Scope
- Definitions
- Test Methods
- Performance Requirements
- Data Submittal Requirements
- Labeling and Certification Requirements

Scope





Portable Electric Spas Scope

Root Definition

Portable Electric Spas

New Definitions

Standard Spas

Exercise Spas

Combination Spas

Inflatable Spas

New Definitions

Standard Spa Portion

Exercise Spa Portion

Definitions





Definitions

“Portable electric spa” means a factory-built electric spa or hot tub, supplied with equipment for heating and circulating water at the time of sale or sold separately for subsequent attachment.



Definitions

“Standard spa” means a portable electric spa that is not an inflatable spa, an exercise spa, or the exercise spa portion of a combination spa.





Definitions

“Inflatable spa” means a portable electric spa where the structure is collapsible and is designed to be filled with air to form the body of the spa.





Definitions

“Exercise spa” (also known as a “swim spa”) means a portable electric spa that includes specific features and equipment to produce water flow for water physical therapy or physical fitness activity, including, but not limited to, swimming in place.





Definitions

“Combination spa” means a portable electric spa with two separate distinct reservoirs, where:

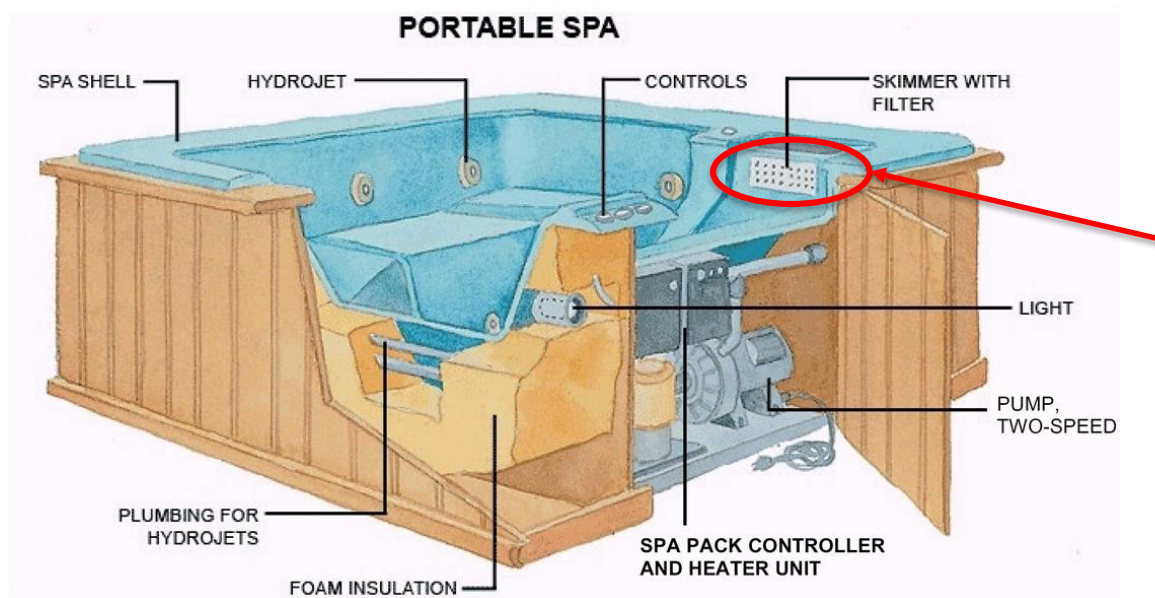
- (1) one reservoir is an exercise spa;
- (2) the second reservoir is a standard spa; and
- (3) each reservoir has an independent water temperature setting control.





Definitions

“Fill volume” means the water capacity of the portable electric spa, in gallons, at the halfway point between the bottom of the skimmer opening and the top of the skimmer opening.





Definitions

“Standby mode” of a portable electric spa means that only the default settings as shipped by the manufacturer are enabled, except water temperature, which may be adjusted to meet the test conditions. No manual operations are enabled.

All definitions can be located at the following:

[https://govt.westlaw.com/calregs/Document/I8FF21C40D44E11DEA95CA4428EC25FA0?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Document/I8FF21C40D44E11DEA95CA4428EC25FA0?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))



Questions?



Test Methods





Test Methods

The test method for portable electric spas manufactured on or after June 1, 2019, is *ANSI/APSP/ICC-14 2014*, excluding section 8.2, and with the following modifications:

- Fill volume specified
- Water Temperature:
 - Standard and Inflatable: $102^{\circ}\text{F} \pm 2^{\circ}\text{F}$
 - Exercise: $87^{\circ}\text{F} \pm 2^{\circ}\text{F}$
 - Combination: Each portion shall be the same as above, with both portions on



Test Lab Report Requirements

Additional test lab report requirements:

- Date of Test
- Minimum and maximum water temperature settings
- Copy of label(s)
- Minimum, maximum, and average water temperature during test
- Minimum, maximum, and average ambient air temperatures during test
- Length of test
- Record and plot ambient air temperature, water temperature, current, voltage at a maximum interval of 5 minutes during test
- For inflatable spas, a list of the accessories that were tested with the spa



Test Lab Report Requirements

Additional test lab report requirements found in Section 5 of ANSI/APSP/ICC-14:

- Measured fill volume
- Ambient air temperature at one point during the test
- Make, model, and serial number of model tested
- Spa cover manufacturer and model number
- Record watt-hours, voltage, and current used during entire test period
- Record elapsed time during test period
- Total energy use



Effective Date

Current Test Method

January 1, 2006 – May 31, 2019

New Test Method

Manufactured on or after June 1, 2019



Questions?



Performance Requirements





Performance Requirements

Appliance	Normalized Standby Power Condition	Maximum Standby Power (Watts)
Standard, exercise and combination spas	as defined in Section 6.1, 6.2, and 6.3 of ANSI/APSP/ICC-14 2014	$3.75V^{\frac{2}{3}} + 40$
Inflatable spas	as defined in Sections 6.1 and 6.2 of ANSI/APSP/ICC-14 2014	$7(V^{\frac{2}{3}})$

Where V= the fill volume, in gallons.



Expected Savings

	First-Year Savings (2019)		Complete Stock Turnover Savings (2028)	
Type	Energy Consumption (GWh/yr)	Savings (\$ millions)	Energy Consumption (GWh/yr)	Savings (\$ millions)
Standard Spas	11.7	2.1	137.5	25.5
Exercise Spas	5.3	1.0	62.6	11.6
Combo Spas	1.6	0.3	18.1	3.4
Inflatable Spas	7.4	1.4	23.8	4.4
Total	26.0	4.8	242.0	44.9



Effective Date

Current Standard

January 1, 2006 – May 31, 2019

New Standard

Manufactured on or after June 1, 2019



Questions?



Where to Label





Where to Label

For standard, exercise, and combination spas, the label shall be affixed on a readily visible location on the shell or skirt panel of the unit.





Where to Label

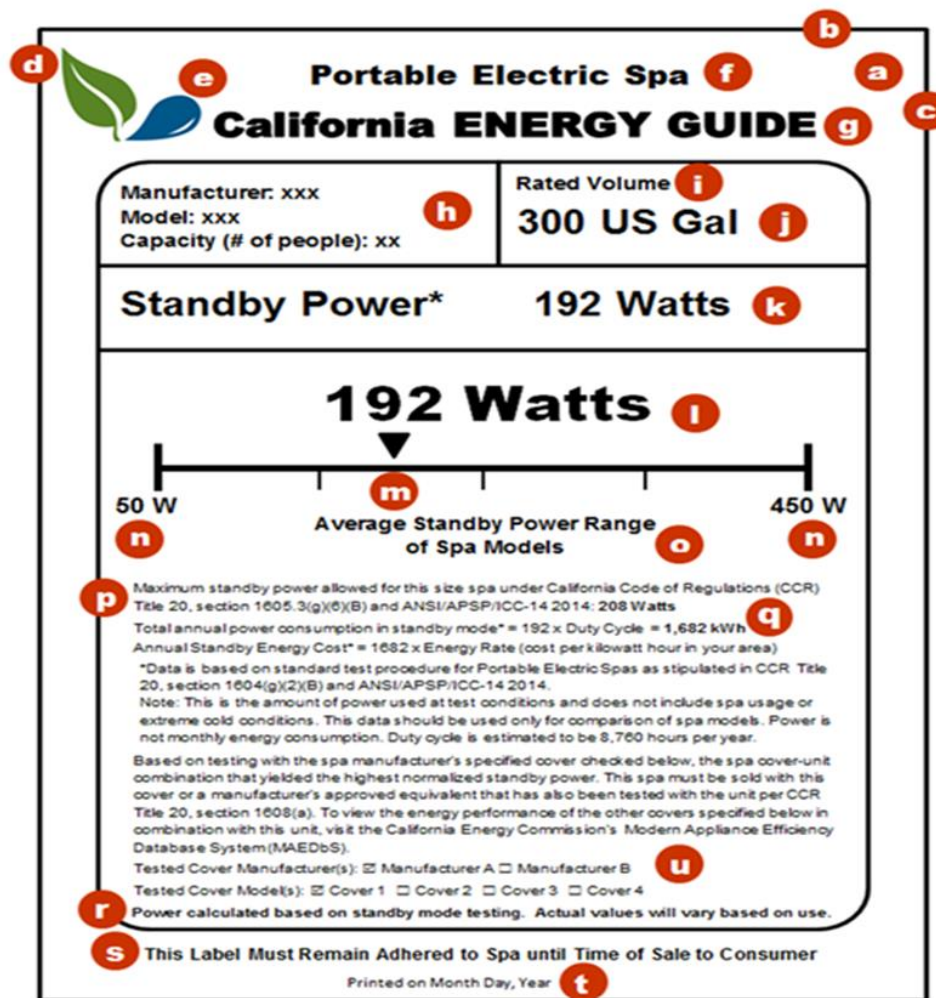
For inflatable spas, the label shall be affixed on a readily visible location on the unit's retail packaging.





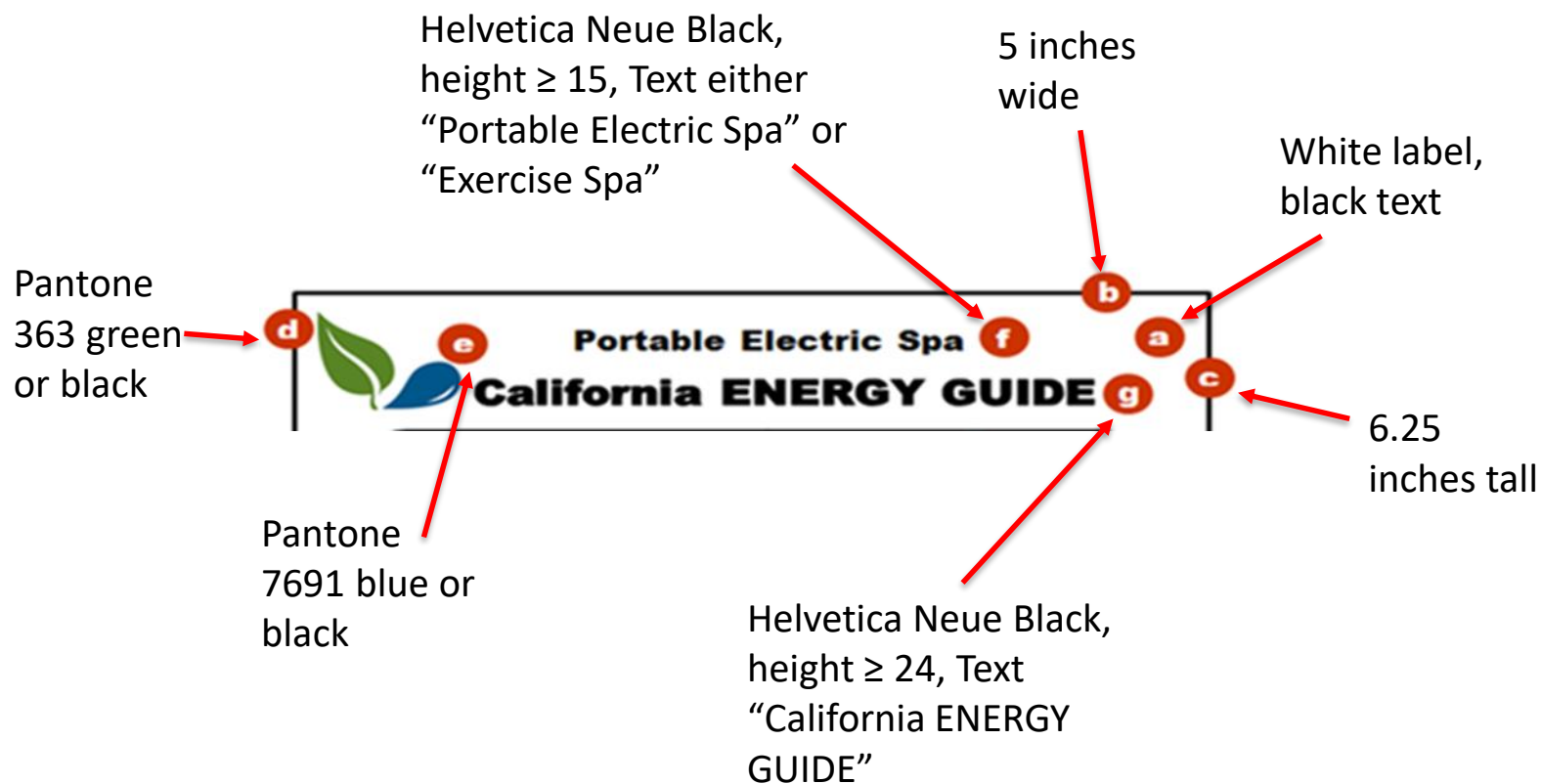
What to Include on Label

Figure 1





What to Include on Label





What to Include on Label

Arial Bold, height ≥ 9.5 , Text
Manufacturer: [insert name of
manufacturer here] Model: [insert
model number here] Capacity (# of
people): [insert number of people
here].

Arial Bold, height
 ≥ 9.5 , text "Rated
Volume

Arial Bold,
height ≥ 16 ,
text "US Gal"

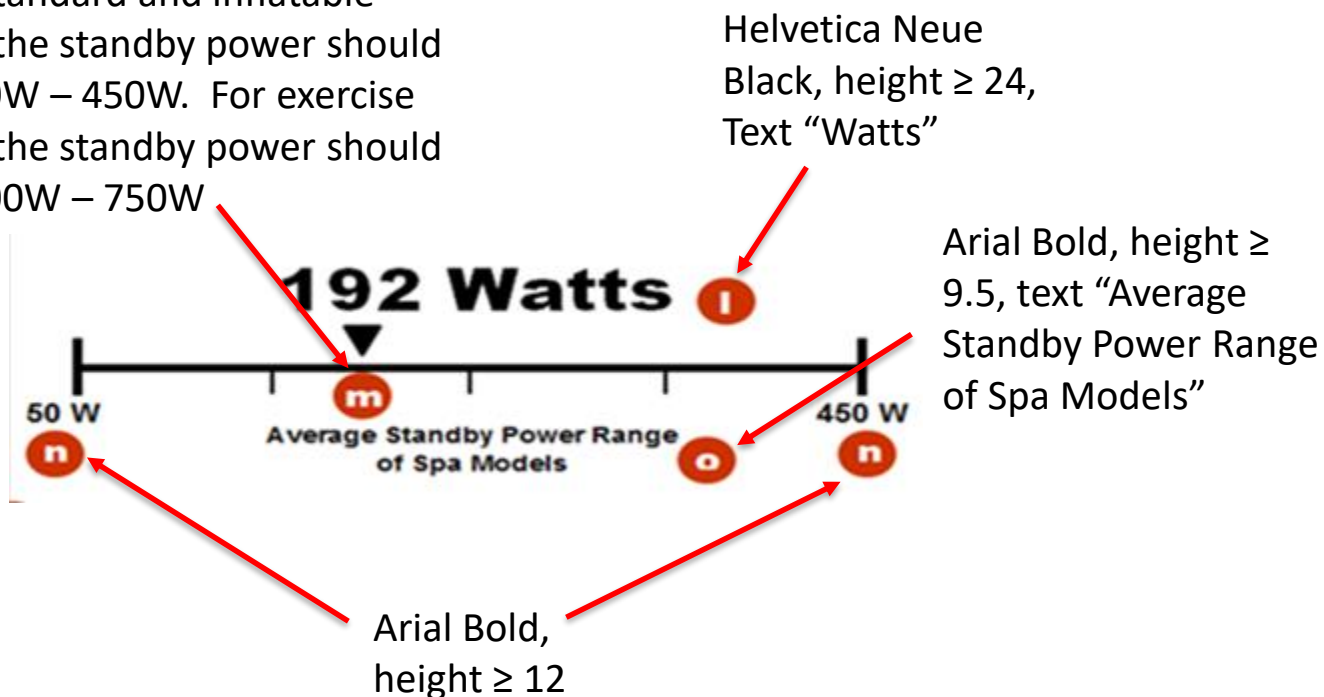
Manufacturer: xxx Model: xxx Capacity (# of people): xx	Rated Volume 300 US Gal
Standby Power* 192 Watts	

Arial Bold, height ≥ 16 ,
text "Standby Power"
and "Watts"



What to Include on Label

For Standard and inflatable spas the standby power should be 50W – 450W. For exercise spas the standby power should be 100W – 750W





What to Include on Label

Arial; height \geq 8, horizontally scaled \geq 85%

Arial; height \geq 8, horizontally scaled \geq 85%

P Maximum standby power allowed for this size spa under California Code of Regulations (CCR) Title 20, section 1605.3(g)(6)(B) and ANSI/APSP/ICC-14 2014: **208 Watts**

Total annual power consumption in standby mode* = 192 x Duty Cycle = 1,682 kWh

Annual Standby Energy Cost* = 1682 x Energy Rate (cost per kilowatt hour in your area)

*Data is based on standard test procedure for Portable Electric Spas as stipulated in CCR Title 20, section 1604(g)(2)(B) and ANSI/APSP/ICC-14 2014.

Note: This is the amount of power used at test conditions and does not include spa usage or extreme cold conditions. This data should be used only for comparison of spa models. Power is not monthly energy consumption. Duty cycle is estimated to be 8,760 hours per year.

Based on testing with the spa manufacturer's specified cover checked below, the spa cover-unit combination that yielded the highest normalized standby power. This spa must be sold with this cover or a manufacturer's approved equivalent that has also been tested with the unit per CCR Title 20, section 1608(a). To view the energy performance of the other covers specified below in combination with this unit, visit the California Energy Commission's Modern Appliance Efficiency Database System (MAEDbS).

Q



What to Include on Label

Arial; height ≥ 8 ,
horizontally
scaled $\geq 85\%$

Checkbox's shall
be marked on the
label

combination with this unit, visit the California Energy Commission's Modern Appliance Efficiency Database System (MAEDbS).

Tested Cover Manufacturer(s): ☒ Manufacturer A ☐ Manufacturer B

Tested Cover Model(s): ☒ Cover 1 ☐ Cover 2 ☐ Cover 3 ☐ Cover 4

r Power calculated based on standby mode testing. Actual values will vary based on use.

s This Label Must Remain Adhered to Spa until Time of Sale to Consumer

Printed on Month Day, Year **t**


u

Arial; height ≥ 8 ,
horizontally
scaled $\geq 85\%$

Arial; height ≥ 8 ,
horizontally
scaled $\geq 85\%$



Label Template



Portable Electric Spa

California ENERGY GUIDE

Manufacturer: <input type="text"/>	Rated Volume <input type="text"/> US Gal
Model: <input type="text"/>	
Capacity (# of people): <input type="text"/>	

Standby Power* **Watts**

Watts

50 W

450 W

**Average Standby Power Range
of Spa Models**

Maximum standby power allowed for this size spa under California Code of Regulations (CCR) Title 20, section 1605.3(g)(6)(B) and ANSI/APSP/ICC-14 2014: Watts

Total annual power consumption in standby mode* = x Duty Cycle = kWh

Annual Standby Energy Cost* = x Energy Rate (cost per kilowatt hour in your area)

*Data is based on standard test procedure for Portable Electric Spas as stipulated in CCR Title 20, section 1604(g)(2)(B) and ANSI/APSP/ICC-14 2014.

Note: This is the amount of power used at test conditions and does not include spa usage or extreme cold conditions. This data should be used only for comparison of spa models. Power is not monthly energy consumption. Duty cycle is estimated to be hours per year.

Based on testing with the spa manufacturer's specified cover checked below, the spa cover-unit combination that yielded the highest normalized standby power. This spa must be sold with this cover or a manufacturer's approved equivalent that has also been tested with the unit per CCR Title 20, section 1608(a). To view the energy performance of the other covers specified below in combination with this unit, visit the California Energy Commission's Modern Appliance Efficiency Database System (MAEDbS).

Tested Cover Manufacturer(s): ☐ ☐

Tested Cover Model(s): ☐ Cover 1 ☐ Cover 2

Power calculated based on standby mode testing. Actual values will vary based on use.

This Label Must Remain Adhered to Spa until Time of Sale to Consumer

Printed On:



For Multiple Spa Covers

- The label may display the most recent spa cover model number(s) and corresponding spa cover manufacturer(s) for other covers tested with the unit.
- If the label lists multiple spa covers, the label shall display the spa cover model number(s) and corresponding spa cover manufacturer(s) of the spa covers tested with the unit as listed in MAEDbS.



Printing and Adhesion

- The label shall be printed:
 - a. on a removable adhesive-backed white polymer label or the equivalent for standard, exercise, and combination spas.
 - b. as specified in subdivision (d)(14)(B)3.a. or integrated as part of the unit's retail packaging design for inflatable spas.
- All adhesive labels shall be applied so they can be easily removed without the use of tools or liquids, other than water, but shall be applied with an adhesive with an adhesion capacity sufficient to prevent dislodgment during normal handling throughout the chain of distribution to the consumer.



Effective Date

Current Marking Requirements

January 1, 2006 – May 31, 2019

New Marking Requirements

Manufactured on or after June 1, 2019



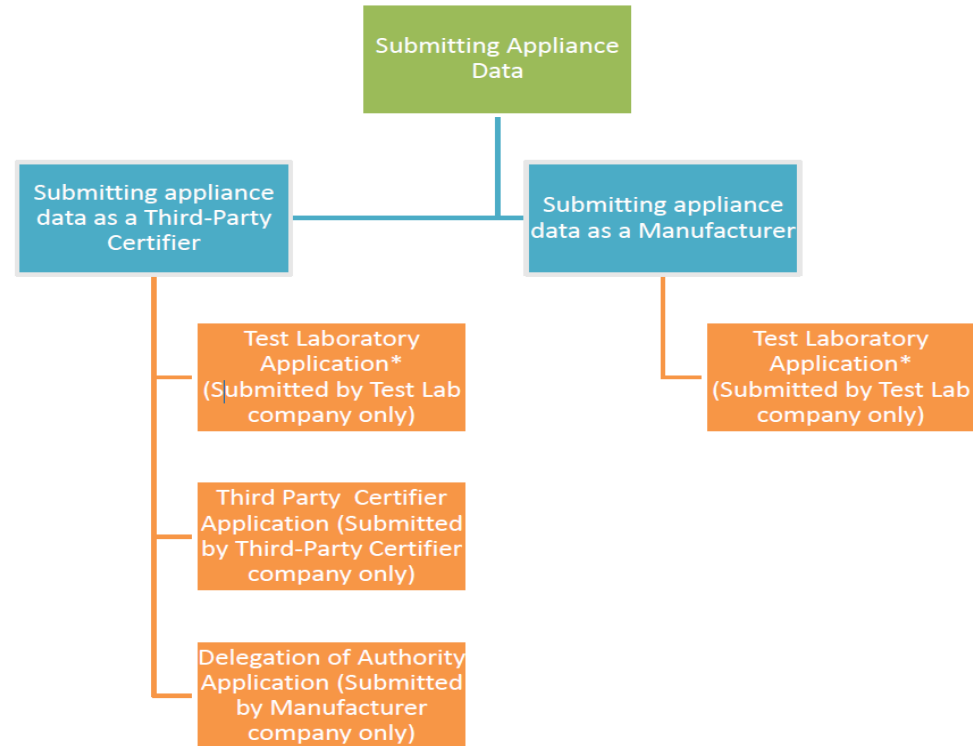
Questions?



Data Submittal Requirements and Certification



Data Submittal Requirements



General instructions for Certifying to MAEDbS can be found at:

http://www.energy.ca.gov/appliances/forms/MAEDBS_General_Instructions.pdf



Test Lab Application

Test Lab Application

Company Information

Section 1

Appliance type and Test Method Selection

Section 2

Documents

Section 3

Declaration

Section 4

California Appliance Efficiency Program 2015 Test Laboratory Application

Submit Cancel

Instructions

Please allow at least four weeks during the heavy renewal period (November-March) before contacting us regarding your application.

Company Information

*Test Laboratory Name
Test Company

Address 1
1901 TEST LOCATION

Address 2

City
SACRAMENTO

State

ZIP/Postal Code
958260000

Country
USA

Company Website (URL)

*Contact First Name

*Contact Last Name

Phone Number

Fax

Email Address
@ENERGY.CA.GOV

Appliance Type and Test Method Selection

Appliance Type	Test Method
No records found	

Documents

Document Name	Created Date
No records found	

Declaration

- ☐ It has conducted tests using the applicable test method(s) specified on the first page of this application within the previous 12 months;
- ☐ It agrees to and does interpret and apply the applicable test method set forth in Section 1604 precisely as written;
- ☐ It has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the applicable test method precisely as written;
- ☐ It agrees to and does maintain copies of all test reports, and provided any such report to the Executive Director on request, for all basic models that are still in commercial production; and
- ☐ It agrees to and does allow the Executive Director to witness any test of such an appliance on request, up to once per calendar year for each basic model.
- ☐ I declare under penalty of perjury of the laws of the State of California, that, All the information in this statement is true, complete, accurate, and in compliance with all applicable provisions of Sections 1601-1608 of Title 20 of the California Code of Regulations, and I am authorized to make this declaration, and to file this application, on behalf of Test Company
- ☐ It agrees to, and will follow, all applicable provisions of the California Energy Commission's Appliance Regulations (Section 1601-1608 of Title 20 of the California Code of Regulations), in carrying out all testing pursuant to this application.

*Name *Title *Date



Manufacturer/3rd Party Account Setup

Manufacturer/3rd Party Account Setup:

Company Information:
Full Name of Company

1

Company Type

2

Address

3

CA.GOV CALIFORNIA ENERGY COMMISSION

HOME SEARCH

Create new company

Instructions

- Please fill out all the required fields marked by *
- Please select all company types that apply.

Company Information

*Company Name

Company Website (Follow Format: <http://www.energy.ca.gov>)

Company Type

☐ Manufacturer ☐ Test Lab ☐ 3rd Party Certifier

(Note: Selecting a company type does not grant immediate access by the California Energy Commission. A company will still need to submit an approval application before they are able to submit data. Checking a company type box allows access to applications specific to that company type.)

Address

*Country
USA ▼

*Address Line 1 Address Line 2

*City *USA State Foreign State/Province *ZIP/Postal Code

Create User



Certification








- Portable electric spa manufacturers must certify new spas to MAEDbS.
- Instructions and templates are available online at:
http://www.energy.ca.gov/appliances/database/forms_instructions_cert/Pool_Products/.
- If you have any questions or issues with certifying, please contact our hotline at: appliances@energy.ca.gov.



Data Submittal Requirements

Data Submittal Requirements excel

- New fields highlighted in yellow

File		Home		Insert		Page Layout		Formulas		Data		Review		View			
 Paste		 Cut		 Copy		 Format Painter		Calibri 11 A A									
Clipboard								Font						Alignment			
S20																	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Action	Manufacturer	Brand	ModelNumber	RegulatoryStatus	SpaType	RatedVoltage	RatedCapacity	SpaInsulation	SpaIncludesSkimmer	PESRatedVolume	ESRatedVolume	PESFillVolume	ESFillVolume	PESNormalizedStandbyWatts	ESNormalizedStandbyWatts	
2																	
3																	



Certification

To upload your data using an excel sheet, begin by downloading and completing the excel file using the spreadsheet in the Portable Electric Spas (ESPA) certification packet. The excel spreadsheet included in the certification packet should look like the preceding slide and adhere to the following rules:

- The file type must be in the form of Excel 2010 or higher (.xlsx) file.
- Enter one model per row. Multiple models cannot be submitted in a single row.
- The limit of model listings per excel file is 1000.
- Do not leave completely blank rows between rows containing data.
- The top row (Row 1) must contain column titles, starting at the top-left cell (cell A1).
- Do not change the column headings in the spreadsheet.



Data Submittal Requirements

To Manually Submit Data to MAEDbS

Portable Electric Spas

SaveCancel

Instructions

- Key in appliance data according to associated fields in the import template provided in the instructions for this specific appliance type. If the appliance brand name does not appear in the dropdown, enter it in the free entry field, this will be added to the system after CEC staff processing.
- Model data must first be processed by CEC prior to any submissions to change or delete previously submitted model data.
- **Brand codes are not accepted.**

*Action

Please Select

*Model Number

Manufacturer

Add Date

Brand

Please Select

New Brand

*Regulatory Status

Please Select

Rated Voltage

Spa Type

Please Select

Rated Capacity (# of people)

Spa Enclosure Fully Insulated?

None

Portable Electric Spa Normalized Standby Watts

Portable Electric Spa Normalized Standby Watts Std

Portable Electric Spa Fill Volume (gallons)

Spa Includes Skimmer? (T/F)

None

Portable Electric Spa Rated Volume (gallons)

Exercise Spa Rated Volume (gallons)



Resources

Title 20 Compliance Assistance Hotline
Toll free inside California **(888) 838-1467**
From outside of California **(916) 651-7100**
appliances@energy.ca.gov

Title 20 Compliance Assistance listserv
<http://www.energy.ca.gov/efficiency/listservers.html>

Webinar documents
<http://www.energy.ca.gov/appliances/forms/index.html#webdocs>

Portable Electric Spas FAQs
<https://www.energy.ca.gov/appliances/outreach/>



Questions?

